

4 Secrets to Learning Anything, According to Neuroscience

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The future of work is all about innovation and agility. We have to be prepared for ever-changing circumstances, and that means being open to learning new things.

Learning is no longer something we just do in schools. We can't rely on just the skillset we knew when we entered the workforce--that will guarantee career stagnation.

So I decided to sit down with [Dr. Josh Davis](#), the Director of Research and Lead Professor for the [NeuroLeadership Institute](#), an organization devoted to using science to advance leadership potential.

NLI has recently been exploring how to make ideas stick. Through their research, they created a model outlining four key conditions for effective learning: Attention, Generation, Emotion and Spacing (AGES).

Here's a quick overview of the AGES model:

Attention: When you learn, maintain a single focus having complete and undivided attention.

Generation: Listening isn't enough. Heighten the likelihood of memory retention by doing something with the information you're learning. Create a situation that will make this information meaningful.

Emotion: Strong emotions lead to strong memories. Look for ways to build an emotional connection to what you're learning.

Spacing: In order to grow memory, you need a break in between learning.

Laura: Why is the AGES model so important at this time?

Josh: With the world of work changing so quickly, we all need to learn how to learn. We need to be expert learners. These four principles, distilled from many years of research and hundreds of studies, are powerful ways to consciously recall what you want to consciously recall.

Laura: What is the most common barrier to learning that you see in people?

Josh: There is a pattern that we all learned in school, which is to study everything once. We learned by cramming for the test--a one-time burst of taking in information and trying to absorb as much as we can. But if the goal is to retain information, that model doesn't work.

What does work, is if we learn something, sleep on it, and then learn it again. Sleep is not a passive thing. It involves a lot of active brain processes, one of which is to reactivate those things that have been tagged as important during the day. That's how we grow our memory. But it doesn't happen in an instant, and it can't happen in an instant. You have to learn, sleep on it, come back to it, and reactivate it.

Laura: How can leaders and managers practically apply the AGES model with their employees?

Josh: Say you're trying to get someone up to speed quickly. You want them to learn quickly and retain, and you don't want to have to keep teaching them the same thing. One way to put them in a situation where they are likely to activate all four principles is to give them the responsibility of educating someone else about what they are doing and what they are learning.

We can't help but learn something if we have to teach it. In fact, there is research that people tend to learn better when they teach. If I am teaching

someone about how we work at my company, it's going to grab my attention because I need to be able to focus on that person and do the work of communicating what I know.

I also have to generate connections to my own existing knowledge and think about what the other person is going to find relevant. There's a lot of connection building as you try to synthesize information and make it powerful, available, and fit the perspective of the person you're talking to.

This process tends to be emotional because you'll want to look good. Our social interactions matter so much to us. If you are in the position of teaching someone, you don't want to let them down, you want to look intelligent, and you want it to be engaging. There are a lot of inherent social drivers that make it an emotional moment.

And finally, if you're teaching someone else, that's usually not happening immediately after you learn it. Maybe it's a week later or a month later, and you are coming back to that information each time. There is space in between.

If you want someone to learn something, put them in a position where they have to own it, teach it, and synthesize it for another person. That's a great way to activate all of the principles and make it something that will last.

Laura: How has AGES helped you improve your learning?

Josh: If I am consciously aware that there is something I want to learn, I go ahead and shut off the other information streams. I don't check my email, I shut the door so I don't have other distractions, and I give myself that single focus of attention. I also make sure to come back to it and do some spacing and think about how I would teach it.

I also will come back and ask myself a few questions like, how does this help me do something that is important to me? If it's interesting, how can I

make use of this? Who do I know would want to hear about this? In what ways is this helping me accomplish what I already want to accomplish? This is helping me generate a connection to an existing goal.

The emotional piece has been harder to put into practice for myself, but the teach-back part does help me connect with the emotionality. When working one on one with someone, I know that if I can help them have an insight about the value of some idea, then they are going to run with it so much more than if I were just giving them an answer. If someone has their own insight, that is a powerful form of generation. Another piece to it is that insights feel great, and that's an effective way to generate some emotion.

Laura: You mention that having an insight is the fastest path towards learning. How does one create the environment for insight to occur?

Josh: Before we discuss the optimal conditions for insights, we have to understand that we can only have one thing in conscious awareness at any one time. It's a powerful limitation. We can take in thousands of different information input unconsciously, but we can only have one thing in conscious awareness.

An insight is a new signal or new thought you've never had before, a new way of putting information together. But here's the problem: this new information is not using a pathway that's most well-worn. It's not going to be where you have the strongest connection between neurons. Instead, what is going to be the strongest, and hold your conscious awareness, is something that is easy to think about or something that you have already thought about a lot. If you open your eyes and look around, those are the things that are easy to be the focus of conscious attention. And that's why having insights is tough.

What we want to do is make it possible to free up that competition for conscious awareness. There are four conditions that facilitate insight. First, you should have a quiet mind. It doesn't have to be quiet externally, but

don't have a whole lot of competition for your conscious awareness.

Second, focus internally. When people are about to have an insight, they tend to go inward and there's some visual gating, where information is coming into their eyes, but it's not getting processed in the visual cortex. They are reflecting internally, so they have less competition from the external sensations.

Third, be in a slightly positive mood. The more positive the mood, the more likely we are to see new connections and come up with insight solutions. If we are in a negative mood we are more likely to solve things in a step by step, analytical way. Negative emotions like anxiety and sadness tend to narrow our focus, while positive emotions tend to expand our focus. This allows us to let in new ideas less critically.

The fourth condition is to not actively think about the problem. These four conditions should increase the likelihood of an insight.